

# PRODUCT INFORMATION



## 17 $\beta$ -Estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate (sodium salt)

Item No. 38627

CAS Registry No.: 352431-50-6

Formal Name: (17 $\alpha$ )-3-(hydrogen sulfate) estra-1,3,5(10)-triene-2,4,16,16-d<sub>4</sub>-3,17-diol, monosodium salt

Synonyms: E<sub>2</sub>-2,4,16,16-d<sub>4</sub> 3-sulfate,  
 $\beta$ -Estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate,  
Estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate,  
17 $\beta$ -Oestradiol-2,4,16,16-d<sub>4</sub> 3-sulfate

MF: C<sub>18</sub>H<sub>19</sub>D<sub>4</sub>O<sub>5</sub>S • Na

FW: 378.5

Chemical Purity:  $\geq 98\%$  (17 $\beta$ -Estradiol-3-sulfate)

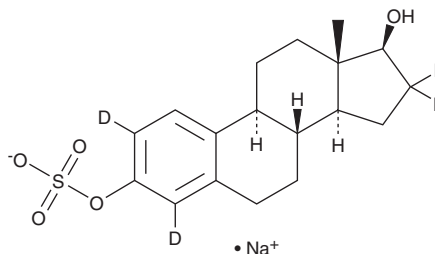
Deuterium

Incorporation:  $\geq 99\%$  deuterated forms (d<sub>1</sub>-d<sub>4</sub>);  $\leq 1\%$  d<sub>0</sub>

Supplied as: A solid (stabilized with TRIS, 50% w/w)

Storage: -20°C

Stability:  $\geq 2$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

17 $\beta$ -Estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate (sodium salt) is intended for use as an internal standard for the quantification of 17 $\beta$ -estradiol-3-sulfate by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

17 $\beta$ -Estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate (sodium salt) is supplied as a solid (stabilized with TRIS, 50% w/w). A stock solution may be made by dissolving the 17 $\beta$ -estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate (sodium salt) in the solvent of choice, which should be purged with an inert gas. 17 $\beta$ -Estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate (sodium salt) is slightly soluble in DMSO.

17 $\beta$ -Estradiol-2,4,16,16-d<sub>4</sub> 3-sulfate (sodium salt) is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

17 $\beta$ -Estradiol-3-sulfate is a sulfated metabolite of the major premenopausal estrogen 17 $\beta$ -estradiol (Item Nos. ISO60155 | 10006315).<sup>1</sup> It is formed from 17 $\beta$ -estradiol by estrogen sulfotransferase 1E1 (SULT1E1). 17 $\beta$ -Estradiol-3-sulfate levels are increased in ovine fetal plasma.<sup>2</sup>

### References

1. Furimsky, A.M., Green, C.E., Sharp, L.E.H., *et al.* Effect of resveratrol on 17 $\beta$ -estradiol sulfation by human hepatic and jejunal S9 and recombinant sulfotransferase 1E1. *Drug Metab. Dispos.* **36**(1), 129-136 (2008).
2. Winikor, J., Schlaerth, C., Rabaglino, M.B., *et al.* Complex actions of estradiol-3-sulfate in late gestation fetal brain. *Reprod.Sci.* **18**(7), 654-665 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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